in another group where there was better discipline were attacked. Discipline is the mainspring of sanitation. The quarantining of suspects prevents epidemics. Few prove negative and the time saved is valuable. The human factor in quarantine makes it inefficient unless there are physical obstacles to communication. A measles census to ascertain the number of suceptibles is desirable and it should be taken promptly on account of the tendency toward evasion where quarantine is being established. It is believed that no disinfection is necessary other than sunlight and ventilation. Early diagnosis is valuable. Attention is called to the danger of measles in causing a particularly fatal type of pneumonia. M. J. R.

The Nutritive Value of Margarines and Butter Substitutes.—Halliburton and Drummond (*Jour. Physiol.*, 1917, li, 235) recall that in 1915 Osborne and Mendel found that oleomargarine, as prepared from beef fat, contained the alcohol soluble accessory growth substance found in butter fat. The authors have given to rats a diet of casein, starch, salts, agar, yeast, and oleomargarine, and they found that this diet promotes normal growth and reproduction of species, and concludes that this fat is the nutritive equivalent of butter. Vegetable oils, however, have not the same nutritive value. When in the above diet a substitution of oleomargarine is made by any one of the following: cocoanut oil, cotton-seed oil, arachis oil, hydrogenated vegetable oils, by nut butters prepared from crushed nuts and vegetable oils—there is no proper growth of young rats. In other words, these materials contain little or none of the fat-soluble accessory substance. The authors summarize the practical results of their work as follows: "But when we approach the subject of the dietary of the poorer classes the question is a more serious one. In ordinary times the consumption of beef dripping, which is considerable among the poor, would to a large extent supply the lacking properties of a vegetable-oil margarine. But at the present time beef itself is expensive and the opportunities of obtaining dripping are therefore minimized. At the same time the three important foods for children already enumerated (milk, butter, eggs) have risen in cost, so as to be almost prohibitive to those with slender incomes. The vegetable-oil margarines still remain comparatively cheap, and the danger is that unless measures are taken to ensure a proper milk supply for infants at a reasonable charge, these infants may run the risk of being fed, so far as fat is concerned, entirely upon an inferior brand of margarine, destitute of the growth-promoting accessory substance. It would be truer economy even for the poor to purchase smaller quantities of an oleo-oil margarine if they cannot afford the luxury of real butter." G. L.

Section of Surgery of the Head, Surgeon-General's Office.—A summary of the work accomplished by the Section of Surgery of the Head in the Surgeon-General's Office can be considered appropriately under the following heads: Organization, Personnel, Activities, Results. The Council of National Defense authorized the Subcommittee on Ophthalmology, April 26, 1917. The personnel of this committee wsa as follows: Dr. James Bordley, Jr., chairman; Dr. George E.

de Schweinitz, Dr. Nelson M. Black, Dr. Walter R. Parker, Dr. Allen Greenwood, Dr. William H. Wilmer.

A committee of Otolaryngologists had been formed by the national societies to secure the services of competent ear, nose and throat specialists. The personnel of this committee was as follows: Dr. Charles W. Richardson, Chairman; Dr. Harris P. Mosher, Dr. Burt R. Shurly, Major Theodore C. Lyster, U. S. A.; Surgeon G. E. Trible, U. S. N. August 15 this committee was authorized by the Council of National Defense as the Subcommittee on Otolaryngology.

With the idea in view that the injuries of the head seldom involve one structure it was deemed wise for these two committees to join forces for the puspose of devising the best means of concentrating all the activities devoted to surgery of the head. To develop further the work, July 7 the executive committee of the Council of National Defense added to the Subcommittee on Otolaryngology an oral surgeon, and to the Subcommittee on Ophthalmology a brain surgeon, these committees acting as a joint body to include all cases that could be classified under the division of surgery of the head.

The Surgeon-General had already contemplated such a plan and had assigned Major T. C. Lyster to the duty of making a thorough study of it. After a careful investigation Major Lyster requested the assignment of members of the joint committee for duty in the Surgeon-General's Office to assist in this work. Major Nelson M. Black was put in charge of ophthalmology, Major Harris P. Mosher in charge of otolaryngology, Major Vilray P. Blair in charge of oral and plastic surgery, Captain Charles Bagley, Jr., in charge of brain surgery.

The first activity engaged in by the committee was the listing of all the known specialists throughout the United States represented by the various subsections of the Section on Surgery of the Head and by preparing an indexed catalogue of these specialists. In determining the availability of applicants for service, assistance was rendered by an advisory committee which consists of well-known specialists in different parts of the country, to whom letters were sent requesting specific information. Through this means many of the most conspicuous men in the profession have joined the Medical Reserve Corps and have been assigned to duty in charge of the various Subsections on Surgery of the Head in the cantonments. Under them will be placed men of less experience who will be trained and later assigned to service in the base hospitals abroad.

Another duty of this sections is to suggest plans for a special head hospital pavilion to be erected in each national cantonment and to standardize the instruments and equipment to be used therein.

In addition to the cantonment hospital a special head hospital of one thousand beds was authorized by the Surgeon-General to be constructed and operated in France. This hospital is to include not only facilities and equipment for the care of the head surgical cases, in the way of operating room, laboratories, roentgen-ray department, etc., but it will have a complete optical shop for the grinding and repair of lenses for use in spectacles and various instruments as well as a complete instrument shop for the care and repair of the instruments of the entire plant. In order to simplify storage, transportation, etc., all instruments and apparatus have been standardized as much as possible. The lenses to be worn by the soldiers, for instance, are all to be of the same size and shape. The frames will be carried in three stock sizes, which will permit of proper adjustment to any case. Plans for the organization of the army hospital have been studied and suggestions made, when requested, as to the personnel necessary for the work of the head section. The Subsection on Oral and Plastic Surgery suggested the plans for dental operating rooms, which are to be included in the special hospital building.

The visual and hearing requirements of the various branches of the Army, together with methods of detecting malingerers, have been submitted for study and suggestions. Arrangements are to be made to provide for the work of dental oral surgeons by the Section on Surgery of the Head.

The following-named publications have been authorized by the Surgeon-General:

The Subsection on Brain Surgery prepared a book on *War Surgery of the Nervous System*, which was published by the Surgeon-General's Office and printed at the Government Printing Office.

The Subsection on Oral and Plastic Surgery revised Blair's book on *Surgery and Diseases of the Mouth and Jaws.*

The Subsection on Ophthalmology edited a *Manual of Ophthalmology.* Three members of the section also furnished the manuscript to the Committee on Publication of the Council of National Defense of a book entitled *Ophthalmic Military Surgery*, with chapters on trachoma and tests for the detection of malingerers.

The Subsection on Otolaryngology has in preparation a *Manual of War Surgery in Otolaryngology.*

On request there was furnished an outline of the course of lectures to be given the officers in the cantonment base hospitals by the senior officer in each section, together with a list of books for a reference library.

In two of the subsections, namely, that on brain surgery and oral and plastic surgery, there were not enough available surgeons sufficiently trained in these specialties to qualify for the responsible positions they were to fill. To meet this demand, schools were established and intensive courses of study instituted at the following-named places: Officers' School of Plastic and Oral Surgery, Northwestern University Dental School, Chicago, Ill.; Thomas W. Evans Museum and Oral Dental School of Surgery, University of Pennsylvania, Philadelphia, Pa.; Neurosurgical School, Chicago, Philadelphia, New York; Neurosurgical, Plastic and Oral Surgery School, St. Louis, Mo.

Regular courses are being given in these schools by men conspicuous in the profession for their teaching experience. The courses are open (1) to those of large surgical experience, the object being to add special technic to their knowledge; (2) to develop the work in younger men who will be placed as assistants.

Officers of the Subsection on Brain and Plastic and Oral Surgery are being assigned to the cantonment hospitals of this country and to each base and evacuation hospital going overseas.

For the purpose of elucidating some of the problems of neurosurgery, especially infections of the brain cord and coverings, a laboratory was established September 1 at Johns Hopkins Medical School, Baltimore, Maryland. The members of this laboratory staff are now diligently working on investigations of procedure and methods of treatment that can be adopted for general use in war surgery.

As a result of the activities of the Section on Surgery of the Head, 568 officers have been assigned active duty in the National Army and the National Guard Cantonment Base Hospitals or are being given special training for service at home or abroad.

Effects of Submarine Duty on Personnel.—Assistant Surgeon WALTER W. CRESS, U. S. N. (*Military Surgeon*, xl, 699), considers the hygiene of the submarine an interesting field and observes the lack of available literature on the subject. He conducted observations on the ventilation of the submarine and on the effect of submarine duty on blood-pressure, weight and hearing of the crew. Bacteriological examinations of the air, under different conditions under which the submarine acts, showed the presence of far fewer bacteria than in that of dwellings and battleships, and the number of microörganisms was greatly reduced when the ventilation was at its poorest as compared with the number present when it was at its best. It is believed that this low content is due to the high humidity and the absence of dust particles and the aspirating action of the engines. Discomfort experienced while submerged greatly exceeds that experienced when running on the surface. This is due to the rise in humidity and temperature as a result of the rapid evaporation of the battery fluid and the higher speed of the dynamos. The fumes of unburned oil from the exhaust when charging the batteries is considered likely to give rise to a transitory albuminuria. While the number of blood-pressure readings was considered too small for the drawing of definite conclusions, it is believed that long, continuous duty on submarines is conducive to high blood-pressure. The cause is not determined, but may be due to strain, lack of exercise and overeating, excessive use of tobacco or coffee or fatigue. A small loss of weight was noted after long trips, but this is not attributed to submarine duty *per se*, as such usually occurs during the first few days at sea on any vessel. An occupational deafness occurs in many individuals on submarine duty as a result of the vibratory movements and noises and the conditions favorable for the production of epipharyngeal and middle-ear catarrh. It is advised that thorough examinations be made of men before they are assigned to submarine duty and that no man be accepted who has had syphilis or the sequelæ or complications of gonorrhea. M. J. R.

Smoke and Powder Gases in Naval Warfare.—Surgeon D. N. CARPENTER, U. S. N. (*Military Surgeon*, xxxix, 461), concludes that there is danger to the personnel in naval action from powder gases in the enemy's explosive shells. This danger is greater in closed gun compartments than in turrets, and the gases may be distributed to all parts of the ship through the ventilating system. Owing to the positive internal pressure of the turrets there is no contamination of the turret air from the ship's own gun-fire. Owing to the possibility of fires being started from shell impact and explosion there is danger from smoke gases. Perforated funnels, ventilators, etc., may cause smoke contamination of any part of the ship, with serious effect